

Appl. No. : 10/092,966  
Filed : March 5, 2002

### **REMARKS**

Claims 1, 3 and 5 have been amended to clarify the invention. In the claims, the term "flat" has been inserted before the term "ceramic green sheet". This amendment is merely for clarification. The amendments neither raise the issue of new issue nor the addition of new matter to the application. Applicant respectfully requests entry of the amendments and reconsideration of the application in view of the amendments and the following remarks.

#### **Rejection of Claims 1, 3-6, 12, 13, 15 and 17-22 Under 35 U.S.C. § 103**

Claims 1, 3-6, 12, 13, 15 and 17-22 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Uriu et al. (US 5,647,966). Claims 1, 3 and 5 have been amended for clarification. Claims 1, 3 and 5 are independent and the remaining claims are dependent on either Claim 3 or 5. The claims cannot be obvious over Uriu et al. as explained below.

#### **Claim 1**

Claim 1 recites to use an adhesive layer that is separable by being cured with UV. In contrast, Uriu et al. merely teaches to use an adhesive layer 16 which is separable by being heated (column 10, lines 23-51). Further, the Examiner admits that Uriu is silent to using UV curing to assist in separating the electrode pattern from the adhesive layer (see section 3 of the current office action).

In addition, Claim 1 has been amended to recite forming a flat ceramic green sheet on the carrier sheet. That is, in Claim 1 as amended, the green sheet has a flat surface (no convex portions of the electrode pattern) when the green sheet is separated from the adhesive layer of the carrier sheet because the ceramic slurry contacts the exposed surface of the adhesive layer.

In the *Response to Arguments* of the office action, the Examiner asserts that although figure 6 of Uriu et al. shows that the ceramic sheet 17 does not actually contact the adhesive layer, employing a ceramic slurry to form the green sheet 17 would contact the adhesive layer and thus meet the claim limitations. Applicant disagrees to the Examiner's assertion. In Uriu et al., there is no motivation for forming no convex portions of the electrode pattern to obtain a flat surface. Rather, in Uriu et al., conductive pattern 115 protrudes from greensheet 111 (see the exposed portion of conductive pattern 115 depicted in Fig. 11H, column 12, lines 56-57, column 13, lines 24-26, and column 13, lines 48-51). The reason why the conductive pattern protrudes from the greensheet is for connecting a convex portion of the conductive pattern 215 with an Ag

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paste filled into a through-hole 209 as depicted in Figs. 12C and 12D to manufacture a multilayer green sheet electrically connected (column 14, lines 10-18). Since the convex portion of the conductive pattern is essential to the invention of Uriu et al., it is not possible to employ a ceramic slurry to form the green sheet 17 depicted in Fig. 6. There is no teaching or suggestion to form a flat surface in Uriu et al.

In contrast, in Claim 1 as amended, lamination with expected accuracy can be obtained by forming a flat ceramic green sheet, i.e., forming no space between the adhesive layer and the ceramic binder layer. Uriu et al. fails to teach or suggest the above significant feature achieved by Claim 1.

Therefore, one having ordinary skill in the art would not have been motivated to conceive the invention of Claim 1 based on the teaching of Uriu et al.

### **Claim 3**

The Examiner asserts that Uriu et al. does not teach that the foamable adhesive contains expandable particles, however the use of expandable particles to effect foaming in an adhesive is well known and would have been an obvious design choice. This reason appears to be hindsight because no reference is cited by the Examiner to verify that thermal expandable fine particles are used into the adhesive layer separable by heating.

On the other hand, as discussed in the previous remarks, the patentability of Claim 3 is evidenced by the unexpected advantages obtained by the claimed invention that are demonstrated in Table 4 from page 34 of the present application. Example 1 comprising thermal expandable fine particles possesses excellent characteristic such as electrode shift and laminating property comparing with Comparative example 1 which does not comprise thermal expandable fine particles. Uriu et al. is equivalent to the Comparative example 1 since Uriu et al. does not comprise thermal expandable fine particles.

Further, Claim 3 has been amended in the same manner as Claim 1. Thus, Claim 3 and the claims dependent thereon cannot be obvious over the reference.

### **Claim 5**

The Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time of the invention to have selected an adhesive which displayed a decreased level of adhesive when heated, such as a side chain crystalline resin. This reason appears to be hindsight

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because no reference is cited by the Examiner to verify that a side chain crystalline resin is used into the adhesive layer separable by heating.

On the other hand, as discussed in the previous remarks, the patentability of Claim 5 is evidenced by the unexpected advantages obtained by the invention that are demonstrated in Table 5 from page 35 of the present application. Example 2 comprising a side chain crystalline resin possesses excellent characteristics such as electrode shift and laminating property comparing with Comparative examples 2 and 3 which do not comprise a side chain crystalline resin. Uriu et al. is equivalent to the Comparative examples 2 and 3 since Uriu et al. does not comprise a side chain crystalline resin.

Further, Claim 5 has been amended in the same manner as Claim 1. Thus, Claim 5 and the claims dependent thereon cannot be obvious over the reference. In view of the foregoing, it is respectfully requested that the rejection be withdrawn.

#### Rejection of Claims 1, 7-11, 14 and 16 Under 35 U.S.C. § 103

Claims 1, 7-11, 14 and 16 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Uriu et al. (US 5,647,966) in view of Muramatsu (US 6,011,300). As mentioned above, Claim 1 has been amended for clarification. Claim 1 is independent and the remaining claims are ultimately dependent on Claim 1.

As discussed above, Uriu et al. does not teach or even suggest forming a flat ceramic green sheet on the carrier sheet.

Although Muramatsu teaches UV curable adhesives, the other distinct features recited in Claim 1, i.e., forming a flat ceramic green sheet is not disclosed or suggested. Thus, a combination of Uriu et al. and Muramatsu still could not lead to the invention of Claim 1. Accordingly, Claim 1 and the claims dependent thereon could not obvious over the references. It is respectfully requested that the rejection be withdrawn.

#### CONCLUSION

In light of the Applicant's amendments to the claims and the foregoing Remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any remaining concerns which might prevent the prompt allowance of the

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application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

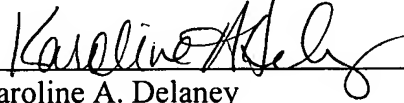
Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: February 17, 2004

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